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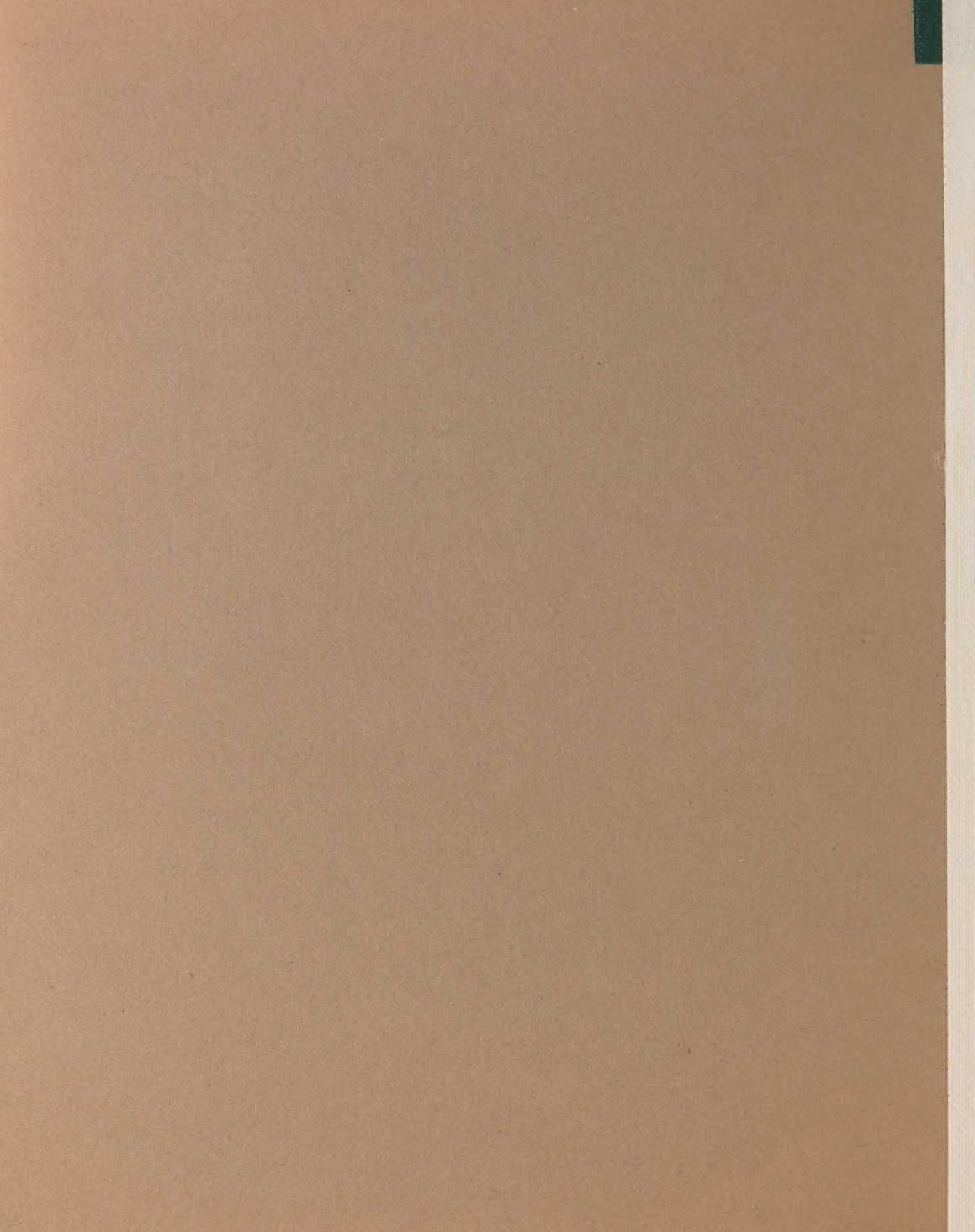
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Canada. Central data processing
service bureau

[General publications]

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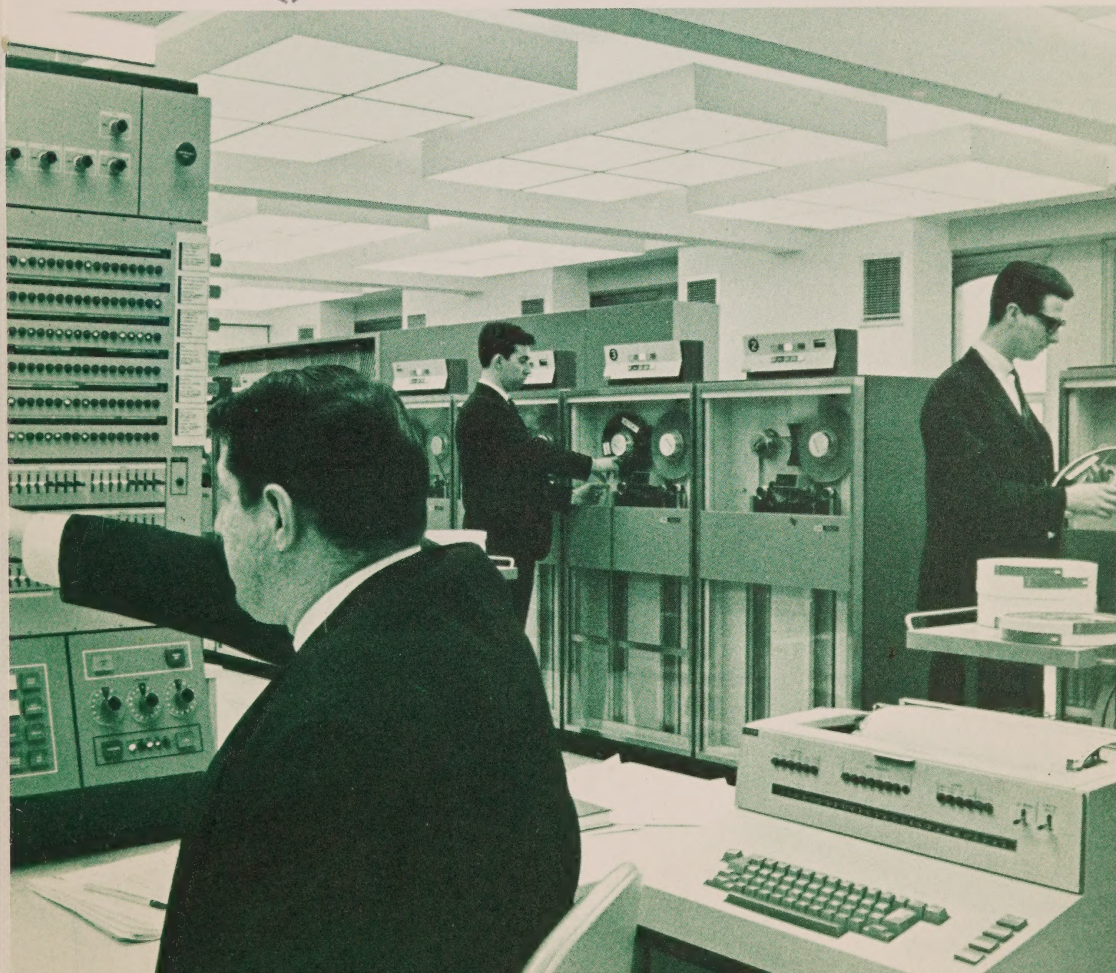



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Government
Publications

CENTRAL DATA PROCESSING SERVICE BUREAU





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CANADA

PRESIDENT OF THE TREASURY BOARD
LE PRÉSIDENT DU CONSEIL DU TRÉSOR

Ottawa 4, Canada

The creation of the Central Data Processing Service Bureau in September, 1964, was another step in the implementation of recommendations of the Royal Commission on Government Organization. The terms of reference of the Bureau were based on a study made by the Interdepartmental Committee on Electronic Computers, the members of which were drawn from departments with a major interest in computing and data processing.

The Bureau has been offering computing and data processing services to government departments since April 1, 1965. With the recent introduction of a working capital advance, these services are now provided on a repayment basis.

The Bureau's installation is designed to allow many users simultaneous access to the powerful computer. By use of communications links, departments may control their work on the facility through equipment located within their own data centres. This concept of operations provides a major new capability for all departments of government and represents another milestone in the introduction of modern techniques for the efficient management of the public service.

THE HONOURABLE E.J. BENSON
President of the
Treasury Board.

CENTRAL DATA PROCESSING SERVICE BUREAU

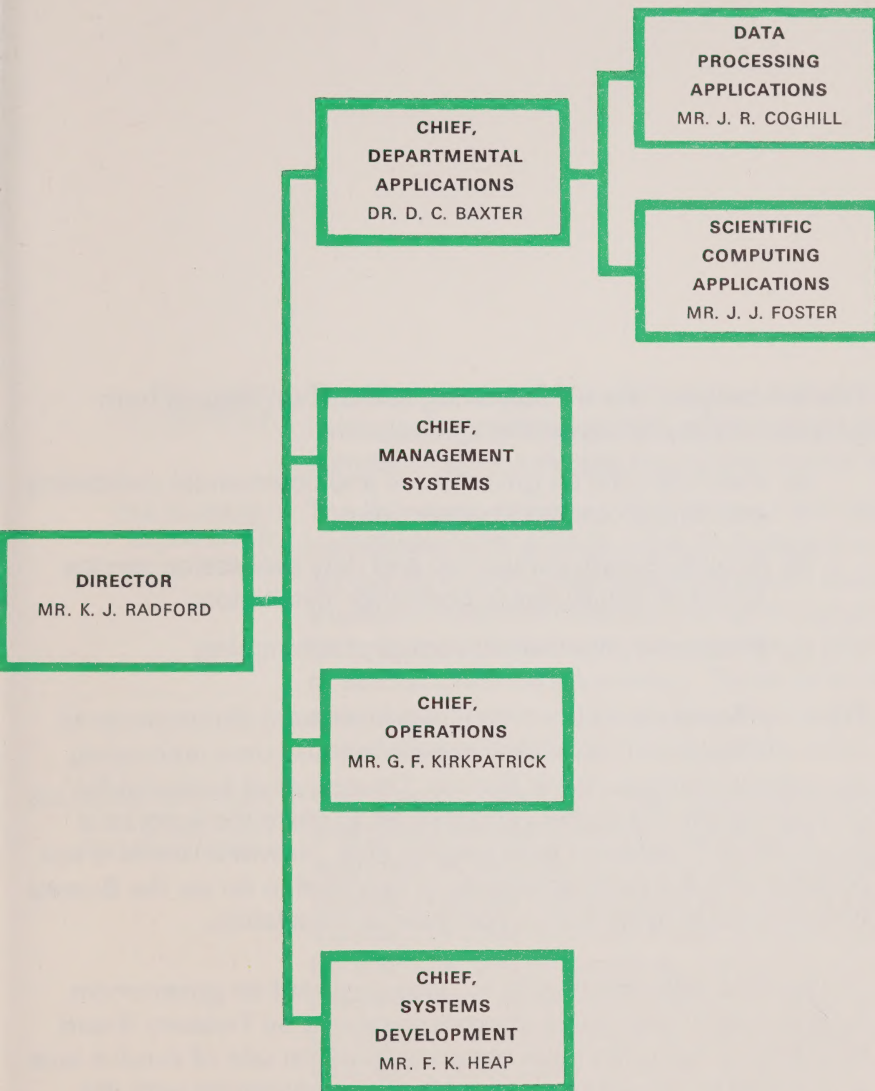
The Central Data Processing Service Bureau was established on September 1, 1964 to provide a computing and data processing service for departments of government in Ottawa and in other regional centres as required. The Director of the Bureau reports to the Secretary of the Treasury Board.

The Bureau has none of the functions of a control agency. Its philosophy is solely that of providing service and assistance to government departments and agencies.

The Bureau is required to be self-supporting financially and to be competitive in all respects with other sources of computing and data processing services. To this end, the Bureau's operations are financed from a working capital advance and all expenses are met from income derived from the provision of services.

It is not the intention that the Bureau undertake the total computing and data processing workload of the Government of Canada. However, departments are encouraged to take the services offered by the Bureau into account when assessing their computing and data processing requirements. Departments are encouraged also to build up their own staffs of programmers and systems analysts and to draw on Bureau programming resources to meet special situations. In addition, the Bureau can provide programming services for agencies that have not yet recruited their own programmers.

FUNCTIONAL ORGANIZATION CHART



DEPARTMENTAL APPLICATIONS DIVISION

Responsible for providing machine systems analysis and programming assistance to departments and agencies on request.

MANAGEMENT SYSTEMS DIVISION

Responsible for management information, control systems and advice in the areas of finance, personnel and administrative services within the Bureau and for administrative relationships with other government agencies.

OPERATIONS DIVISION

Responsible for the operation of the Bureau installation providing a multi-access computing and data processing service. Responsible for arranging to accommodate the requirements of users for time on other computing and data processing equipment.

SYSTEMS DEVELOPMENT DIVISION

Responsible for assessment and development of systems for the Bureau's installation.

SERVICES PROVIDED BY THE BUREAU

BUREAU SERVICES

The Bureau provides the following services on request from government departments and agencies:

- a) Machine time on government and commercial computing and data processing installations.
- b) A multi-access computing and data processing service based on the Bureau's computer installation.
- c) Machine systems analysis and programming.

COMPUTER TIME AT OTHER INSTALLATIONS

Treasury Board regulations require government departments to make the surplus time on their computers and data processing equipment available to the Bureau. On receipt of a request for computer time, the Bureau endeavours to place the work on a government installation with surplus time. However, if this is not possible or if it is more economic or practical to do so, the Bureau will arrange for service on a commercial installation.

RATES FOR COMPUTER TIME

The Bureau establishes rates for time provided on government facilities within maximum charges approved by Treasury Board from time to time. Revenue obtained from the sale of surplus time is recorded to the credit of the custodian department with the Bureau. This credit is available to the custodian for the purchase of time on other installations in connection with authorized projects.

DELIVERY SERVICE

The Bureau operates a pick-up and delivery service between users and custodians to facilitate the transfer of such items as magnetic tapes, card decks, printed output, etc.

THE BUREAU COMPUTER

The Bureau operates an IBM System 360 Model 65 computer installation with a configuration designed to provide a multi-access service to Canadian government departments. The Bureau's computer installation makes extensive use of modern techniques such as multi-programming (the concurrent running of several different programs). These techniques are designed to ensure economic and timely processing of a wide variety of computing and data processing tasks.

MACHINE SYSTEMS ANALYSIS AND PROGRAMMING

The Bureau maintains a staff to provide machine systems analysis and programming services to government departments and agencies on request. On receipt of the specification for a job, the Bureau prepares a cost estimate covering all items of expenditure involved in undertaking the task. A typical estimate includes costs for machine systems analysis, programming, key punching and machine time. Work will begin once the cost estimate is accepted by the user. If the estimate is not accepted by the user (or if the user finds other ways of doing the job) no charges will be made.

The Bureau does not normally undertake the systems and procedures or feasibility studies which precede the decision on whether to proceed with computer programming. This

preparatory work is usually best done by departmental personnel prior to passing the specifications of the job to the Bureau.

COURSES

The Bureau provides instruction courses and seminars, both on the techniques and languages necessary to the use of its installation and on general data processing topics.

BUREAU PUBLICATIONS

The Bureau maintains a Users' Reference Manual, which is issued to those making frequent use of its services and which contains detailed information on the nature of the services offered. A monthly Information Bulletin is distributed to all government departments giving summary information on the Bureau's services and on developments in computing and data processing likely to be of interest to users. For information on these publications and on any other matter pertaining to the Bureau, please telephone Area Code 613, 996-3225.

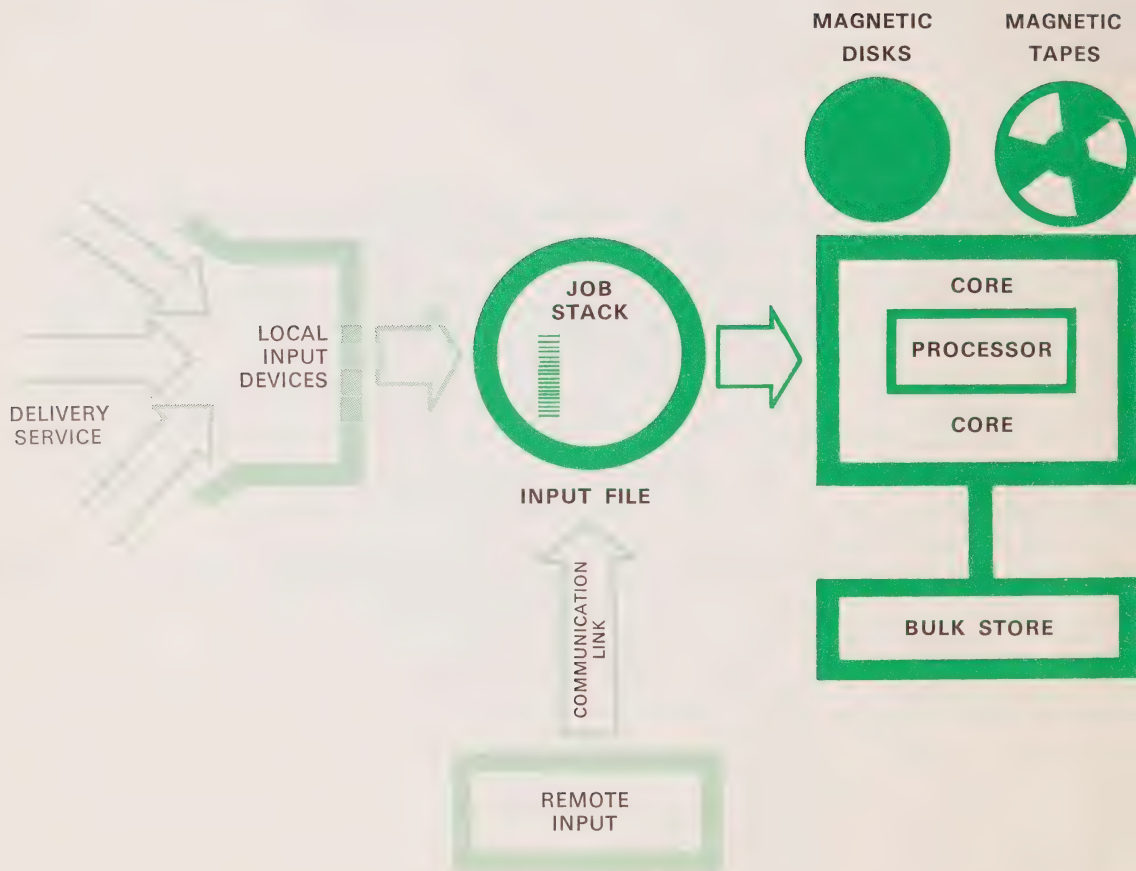
THE BUREAU'S COMPUTER INSTALLATION

FACILITIES AND OPTIONS

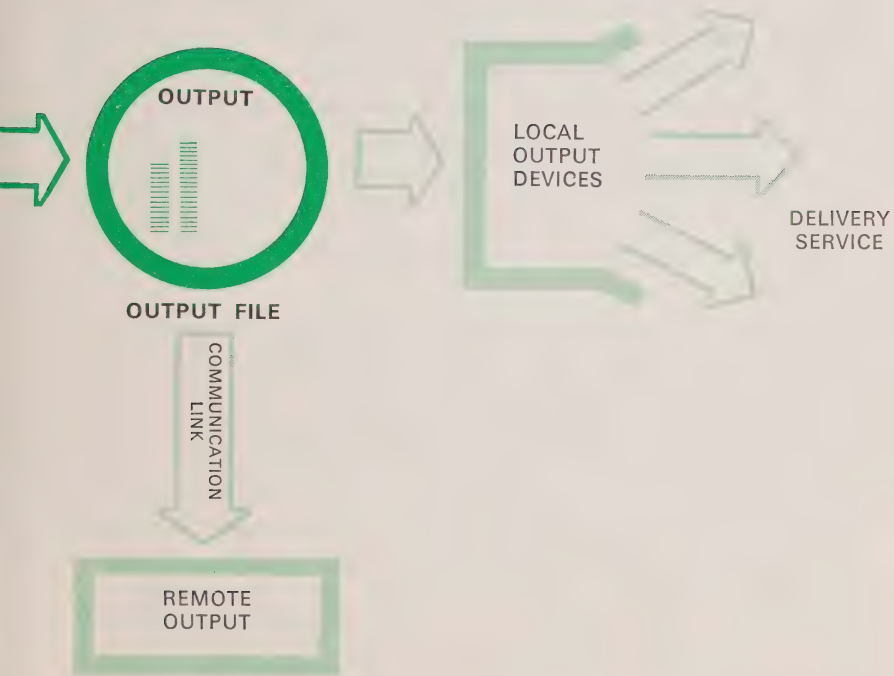
The Central Data Processing Service Bureau provides computing and data processing service on its own installation located in the Confederation Building in Ottawa. Canadian government departments are able to obtain access to the Bureau's installation by any or all of the following means:

- a) direct access via a communication link from terminal equipment in the departmental data centre.
- b) attendance at the Bureau's computer room and use of the local input/output devices.
- c) use of the Bureau's pick-up and delivery service to collect material for processing from the department and deliver the output after processing.

Facilities are provided for storage of users' data and files in the Bureau in any convenient form, thus reducing the amount which need be transferred between the department and the Bureau installation. Small amounts of data may be stored on-line on disks; larger amounts stored on magnetic tapes or disk packs may be called for when required for processing.



THE BUREAU INSTALLATION SCHEMATIC DIAGRAM



Jobs arriving in the system both from local input devices and from remote terminals are stored prior to processing. Jobs are transferred into core for execution and while in execution, data may be read from magnetic tape or disk files as required. A job scheduling system is used to ensure efficient processing of user programs, taking into account the job control information supplied with each task. During prime time, shorter jobs are normally given precedence, although longer jobs are promoted in the stack as a function of waiting time, to avoid continual deferment.

TURN-AROUND

Overall turn-around time experienced by users is made up of a combination of factors. The basic internal turn-around time is defined as the time between arrival of the input on disk and deposit of the output on disk after processing. It is the Bureau's responsibility to keep this time at a level acceptable to users. To obtain the overall turn-around time on a job, a user must add the time required to place his data on the input disk and to retrieve his output from the output disk. The choice between use of communication links, personal attendances at the installation, or use of the delivery service rests with the user, who therefore has some control over his overall turn-around time by virtue of this choice.

The Bureau's computer operates under a monitor routine which allows different modes of operation to be specified to suit the changing nature and amount of the workload. Successive systems of internal organization of the computer will provide progressive increase in efficiency of processing from the user's point of view. The object will be to provide service to the customer at a constant or improving level despite the increased utilisation of the computer.

CHARGES FOR COMPUTER TIME

A scale of charges has been devised for the installation which provides that during multi-programming users are charged only for those portions of the computer which they use or deny to others. In the multi-programming mode, the installation can accommodate a number of users essentially simultaneously, each user being charged only a fraction of the hourly rental of the total installation.

NOTES

Roger Duhamel, F.R.S.C.,

Queen's Printer and Controller of Stationery, Ottawa, 1968

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"can
you
do
Addition?"

the White Queen Asked.

"what's
one
and one
and one
and one
and one
and one
and one
and one
and one
and one
?"

"I don't know,"
said Alice.

"I
lost
count."

CONFEDERATION BUILDING, OTTAWA 4, ONTARIO
AREA CODE 613, 996-2837

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